Remarks

The following remarks are responsive to the September 24, 2007 Final Office Action and the December 20, 2007 Advisory Action. Reconsideration is respectfully requested.

Status of the Claims

Claims 19 and 27 are amended. Claims 19-22 and 24-38 are pending.

Support for Claim Amendments

Claims 19 and 27 are amended to clarify the invention. Claims 22, 26 and 31 are amended to conform with the amendments to Claims 19 and 27. Support for the amendments is found in the specification on page 6, line 19 to page 7, line 11; page 9, line 15 to page 10, line 2; and on page 16, line 12 to page 17, line 6. No new matter is added.

Objection to the Specification

The specification was objected to for failing to include a description of Figure 8 in the Brief Description of the Drawings section. In the Preliminary Amendment filed with the application on April 5, 2006, a description of Figure 8 was provided. Accordingly, the Examiner is requested to reconsider and withdraw the objection.

Rejections under 35 U.S.C. § 102(b)

Claims 27, 31-32 and 38 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,540,235 (Wilson). Claim 27 (from which Claims 31-32 and 38 depend) is amended to clarify the invention.

Applicants' invention relates to an apparatus for the non-invasive *in vivo* determination of the conductivity of nerves in a region of skin of a skin substrate. The apparatus includes a first and second electrode, an electronic stimulator connected to

at least one stimulation electrode, and a circuit connected to the electrodes for determining the conductivity of the nerves in the region of the first and second measuring points of a skin substrate, prior to topical application of a compound and electrical stimulation, and after topical application of a compound and electrical stimulation, and a display that shows the reactivity and/or hypersensitivity of the skin substrate.

Wilson relates to an adaptor for neurophysiological monitoring with a personal computer. The monitoring system includes a first detection circuit for allowing detection of analog neurophysiological signals at a first site, a data processing circuit, and an output device. A second detection circuit is provided to detect analog signals at a second site. The system may also include a stimulation device connected to the power supply for administering a neurophysiological stimulation to the patient. The stimulation device is used to diagnose diseases of the nerves, along each segment of the nerve, by applying an electric shock, as initiated by an operator, over the nerve to be tested.

For a reference to anticipate, each element of the claim must be present. Wilson fails to disclose an apparatus that detects and analyzes electrical signals, prior to and after topical application of a compound and electrical stimulation, and which displays the reactivity and/or hypersensitivity of the skin substrate based on the analyzed signals.

Since Wilson fails to disclose an apparatus that detects and analyzes electrical signals, prior to and after topical application of a compound and electrical stimulation, and which displays the reactivity and/or hypersensitivity of the skin substrate based on the analyzed signals as in Claim 27 (from which Claims 31-32 and 38 depend), Wilson does not anticipate the subject matter of the above claims, and the rejection should be withdrawn. Reconsideration and withdrawal of the rejection are respectfully requested.

Rejections under 35 U.S.C. § 103(a)

Rejection based on Wilson and Zealear

Under 35 U.S.C. § 103(a), Claims 19-22, 24-27, 30-32 and 38 were rejected as being unpatentable over Wilson in view of U.S. Patent 4,817,628 (Zealear). The arguments made above concerning the inapplicability of Wilson are hereby reasserted as if set forth at length.

Zealear relates to a system and method for evaluating neurological function controlling muscular movements, and for evaluating peripheral nerve function. The system includes an accelerometer sensor for measuring evoked movement, a stimulus electrode assembly, and a portable DC powered device. The device has a sensor circuit, a stimulus circuit, and a timing circuit. The system assesses nerve function by measuring the mechanical activity evoked by the stimulation.

Zealear does not teach or suggest determining the conductivity of nerves *in vivo* as claimed. With respect to Claim 19 (from which Claims 21-22 and 24-26 depend), Zealear does not teach or suggest a method for detecting and analyzing electrical signals, prior to and after topical application of a compound and stimulation, which determines the reactivity and/or hypersensitivity of the skin substrate based on the analyzed signals. With respect to Claim 27 (from which Claims 30-32 and 38) depend, Zealear does not teach or suggest an apparatus that detects and analyzes electrical signals, prior to and after topical application of a compound and electrical stimulation, which displays the reactivity and/or hypersensitivity of the skin substrate based on the analyzed signals.

Since Zealear fails to teach or provide a reason to one skilled in the art to provide a method or apparatus determining the conductivity of nerves *in vivo*, as set forth above, the addition of Zealear to Wilson does not cure the deficiencies thereof. In addition, no line of reasoning is provided as to why one skilled in the art would have found it obvious, after reading Zealear, to provide a method or apparatus as claimed. Since there is no teaching or convincing line of reasoning provided as to why one

skilled in the art would have found it obvious to modify Wilson to arrive at the invention as claimed, the rejection should be withdrawn. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

Rejection based on Wilson and Dunseath

Under 35 U.S.C. § 103(a), Claims 28-29 were rejected as being unpatentable over Wilson in view of U.S. Patent No. 5,003,978 (Dunseath). The Examiner alleges, with regard to Claims 28-29, that Wilson does not disclose the electrode as being non-polarizable, or comprising a material selected from the group consisting of stainless steel, tungsten, noble metals and mixtures thereof, and that Dunseath discloses this aspect.

Dunseath relates to a non-polarizable dry biomedical electrode for detection of biopotentials on the surface of a skin of a living body. The electrode includes a conductive substrate with a conductive adhesive.

As set forth above, Wilson fails to disclose or teach an apparatus that detects and analyzes electrical signals, prior to and after topical application of a compound and electrical stimulation, which displays the reactivity and/or hypersensitivity of the skin substrate based on the analyzed signals as in Claim 27 (from which Claims 28-29 depend). The disclosure by Dunseath of various conductive materials (none of which includes stainless steel as alleged by the Examiner) does not cure the deficiencies of Wilson. Since there is no teaching, or convincing line of reasoning provided to one skilled in the art to modify Wilson to provide an apparatus that detects and analyzes electrical signals, prior to and after topical application of a compound and electrical stimulation, and which displays the reactivity and/or hypersensitivity of the skin substrate based on the analyzed signals, the rejection should be withdrawn. Reconsideration and withdrawal of the rejection are respectfully requested.

Rejection based on Wilson and Miyata

Under 35 U.S.C. § 103(a), Claims 33-35 were rejected as unpatentable over Wilson in view of U.S. Patent No. 6,026,321 (Miyata). The Examiner alleges, with regard to Claims 33-35, that Wilson does not disclose at least one preamplifier with high input impedance over a voltage range of from -3 to +3 volts, and that Miyata discloses this aspect.

Miyata relates to an apparatus which includes: a pair of conductors; an amplifier; a transmitter; a voltage-divider circuit; and a compensator circuit, for measuring electrical potential variation in a human body. Miyata does not measure conductivity of nerves on a skin substrate, but instead measures myoelectric (muscle) potentials.

As set forth above, Wilson fails to disclose or teach an apparatus that detects and analyzes electrical signals, prior to and after topical application of a compound and electrical stimulation, which displays the reactivity and/or hypersensitivity of the skin substrate based on the analyzed signals as in Claim 27 (from which Claims 33-35 depend). The disclosure by Miyata of a preamplifier does not cure the deficiencies of Wilson. Since there is no teaching, or convincing line of reasoning provided to one skilled in the art to modify Wilson to provide an apparatus that detects and analyzes electrical signals, prior to and after topical application of a compound and electrical stimulation, and which displays the reactivity and/or hypersensitivity of the skin substrate based on the analyzed signals, the rejection should be withdrawn. Reconsideration and withdrawal of the rejection are respectfully requested.

Rejection based on Wilson and Miyata and Bergman

Under 35 U.S.C. § 103(a), Claims 36-37 were rejected as being unpatentable over Wilson in view of Miyata and further in view of U.S. Patent No. 4,257,010 (Bergman). The Examiner alleges, with regard to Claims 36-37, that Wilson, modified by Miyata, discloses at least one preamplifier connected to the non-invasive measuring electrode, but does not disclose the at least one preamplifier connected to the non-

invasive measuring electrode by a shielded cable, and that Bergman discloses connecting wires surrounded by a shielding to prevent interference.

Bergman relates to a method and apparatus for sensing and maintaining oscillations in an oscillating system. The apparatus includes a signal transmitter.

As set forth above, Wilson fails to disclose or teach an apparatus that detects and analyzes electrical signals, prior to and after topical application of a compound and electrical stimulation, and which displays the reactivity and/or hypersensitivity of the skin substrate based on the analyzed signals as in Claim 27 (from which Claims 36-37 depend). The disclosure by Miyata of a preamplifier does not cure the deficiencies of Wilson. The additional disclosure by Bergman of shielded wires does not cure the deficiencies of Miyata and Wilson.

Since there is no teaching, or convincing line of reasoning provided to one skilled in the art to modify Wilson to provide an apparatus that detects and analyzes electrical signals, prior to and after topical application of a compound and electrical stimulation, and which displays the reactivity and/or hypersensitivity of the skin substrate based on the analyzed signals, the rejection should be withdrawn. Reconsideration and withdrawal of the rejection are respectfully requested.

Fees

A Request for Continued Examination and requisite fee, and a Petition for a Two-month Extension of Time and requisite fee are enclosed. No additional fees are believed due, but the Commissioner is authorized to charge any fees deemed due (or credit any balance) to Deposit Account No. 50-1177.

Conclusion

It is respectfully submitted that Claims 19-22 and 24-38 are in condition for allowance. A Notice of Allowance is respectfully requested. If anything further is needed to advance the allowance of this application, the Examiner is respectfully requested to contact Applicants' attorney at the telephone number indicated below.

Respectfully submitted,

February 20, 2008
Date

Jane E. Keene
Reg. No. 36,014
Attorney for Applicants
Telephone: (215) 628-1474
Facsimile: (215) 628-1345

Cognis Corporation, Patent Dept.
300 Brookside Avenue
Ambler, PA 19002

JEK/ras